

REMARKS

This is in response to the Office Action mailed May 15, 2007. In the Office Action, claims 1-6, 8-17 and 23-29 were pending and rejected. With this amendment, claims 1 and 23 are amended; claims 13-17 are canceled; and the remaining claims are unchanged in the application.

Section Six of the Office Action indicated that independent claim 1, among others, was rejected 35 U.S.C. §103(a) as being unpatentable over Sheridan et al. (U.S. Patent 5,627,328 - hereinafter Sheridan) in view of Dalla Betta et al. (U.S. Patent 5,314,828 - hereinafter Dalla Betta).

This rejection based upon the combination of Sheridan and Dalla Betta was raised previously, and Applicants responded by way of Amendment dated March 21, 2007. Applicants note that Section Fifteen of the Office Action is responsive to Applicants' previous explanation that Dalla Betta does not provide metallic protective covers on both temperature sensing devices. The Office Action cites column 15, lines 4-16 of Dalla Betta as disclosing the RTDs being cemented to element blocks of alumina that are mounted in the stainless steel body so that 3/4 inches were exposed. However, column 15, lines 4-16 of Dalla Betta provide,

"The sensor elements used in this example were prepared using stainless steel bodies and thin, narrow element blocks of alumina (about 0.040 x 0.250). Temperature measuring devices (100 ohm RTD's) were cemented to the element blocks. The element blocks were mounted in the body using a ceramic cement so that about 3/4 inches was exposed. Both sensor elements were then coated with an alumina gel and calcined by heating the elements in an air furnace from room temperature to 500°C. and holding them at 500°C. for one hour. The elements were then dipped in a saturated solution of TiOSO_4 . The elements were then dried in two stages: first at 80°C. and then at 475°C. for one hour."

However, shortly following that quotation, column 15, lines 18-20 provide, "This element set was then inserted into an isothermal aluminum block similar to that shown in FIG. 6." FIG. 6 clearly shows a sensor element set 626 being inserted into block 616. Accordingly, the "stainless steel bodies" that are used by the Office Action to meet the limitations of the first and second protective covers, simply do not separate the sensor elements from the exhaust stream. In order to highlight this distinction, independent claim 1 has been amended to recite that the first and second protective covers are metallic, mounted to the holder, and separate their respective RTDs from the exhaust stream. Applicants respectfully submit that Dalla Betta simply does not teach or suggest such an arrangement.

In addition to the rejection of independent claim 1 based upon the Sheridan/Dalla Betta combination above, the Office Action sets forth, in Section Seven, an independent and distinct rejection of independent claim 1 based upon the combination of Sheridan/Dalla Betta, and McQueen (U.S. Patent 4,977,385). In this regard, the Office Action asserts that McQueen teaches an RTD 10 disposed in a protective cover 12. However, McQueen provides no more than an RTD inside a metallic sheath. The Office Action indicated, on Page Six, that it would have been obvious to one of ordinary skill in the art to have modified the device of Dalla Betta in the system of Sheridan to include a metallic cover for the RTD as taught by McQueen ('385) because, as explained by McQueen, the metallic cover will protect the RTD in a hostile, chemical or mechanical environment. However, the ability of a metallic sheath to cover and protect an RTD in industrial settings is virtually irrelevant to the operation of an RTD in a complex process analytic system such as that set forth in independent claim 1. Further, Applicants respectfully

submit that the appreciation of the environment within which the sensor operates as a "hostile, chemical or mechanical environment" is in fact based upon an understanding of Applicants' own invention and thus its use in combining the McQueen reference requires improper hindsight. Further still, Applicants respectfully note that it is the position of the Office Action that Sheridan/Dalla Betta meet all of the limitations of independent claim 1. Accordingly, there would be no reason to look to the further teachings of McQueen. Accordingly, Applicants respectfully submit that the Sheridan/Dalla Betta/McQueen combination is improper. Thus, Applicants respectfully submit that as amended claim 1 is allowable.

Sections Twelve and Thirteen of the Office Action set forth rejections of claims 13-17 under 35 U.S.C. 103(a). Those claims have now been canceled.

Section Fourteen of the Office Action indicated that independent claim 23, among others, was rejected under 35 U.S.C. §103(a) as being unpatentable over Isenberg (U.S. Patent 4,428,817) in view of Ruka et al. (U.S. Patent 5,021,304 - hereinafter Ruka). Applicants have amended independent claim 23 in order to better distinguish that claim from the teachings of Isenberg and Ruka. Specifically, claim 23 has been amended to recite that the reference electrode is coupled to the solid electrolyte and is exposed to a gas with a known partial pressure of oxygen. Support for this feature can be found on page 16, second paragraph, of Applicants' specification. Neither Isenberg nor Ruka teach or suggest coupling a reference electrode to a gas with a known partial pressure of oxygen. Thus, Applicants respectfully submit that amended independent claim 23 is allowable over Isenberg and Ruka, taken alone or in combination.

Further, Applicants respectfully submit that dependent claims 24-29 are allowable as well by virtue of their dependency, either directly or indirectly, from allowable independent claims.

In conclusion, Applicants respectfully submit that the entire application is now in condition for allowance. Reconsideration and favorable action are respectfully requested.

The Director is authorized to charge any fee deficiency required by this paper or credit any overpayment to Deposit Account No. 23-1123.

Respectfully submitted,

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